For Immediate Release

IIJ Conducts a Verification Trial Confirming the Effectiveness of SGP.32, a New eSIM Standard for IoT Devices

- Enabling consumer eSIM use even with IoT devices, will mean greater convenience for IoT service providers -

TOKYO - February 12, 2025 - Internet Initiative Japan Inc. (IIJ, TSE Prime: 3774), one of Japan's leading Internet access and comprehensive network solutions providers, today announced the completion of a use case verification trial of the eSIM standard SGP.32 for IoT devices, published in May 2023 by the GSMA,* which enables a consumer eSIM provided for smartphones and other such terminals to be used in IoT devices. The trial confirmed the effectiveness of this standard for adoption in IoT devices.

A consumer eSIM, used with smartphones, tablets and similar personal devices, is designed to be set up by the user on the device operation screen. The SGP.32 standard tested in this verification trial introduces a mechanism for performing eSIM operations remotely rather than directly on the device, making it possible to use a consumer eSIM with an IoT device that lacks an operation screen.

If, for example, an IoT service provider manufactures an IoT device outside Japan, communication can be tested in shipment testing using an eSIM of the country of manufacture; then in the country or region to which the completed product is shipped, communication service can be provided by switching at any time to a local eSIM, without touching the device. For IoT service providers, this will mean much greater convenience.

*GSMA (GSM Association): An industry group made up of mobile service providers adopting the GSM mobile phone system, and related companies.

Background to the development

Unlike personal terminals such as smartphones, an IoT device essentially is designed to use the originally selected SIM until the end of service. As IoT services spread and diversify, however, there are growing demands to be able to select a SIM for the area of use even with an IoT device, to mount a SIM at any time after device manufacture, or to switch to a different SIM remotely at the point of use.

To meet such demands, in place of a physical SIM, functionality is needed for remotely downloading an eSIM and selecting the optimum profile for a given situation. SGP.32 is a new technical specification drawn up in response to diverse needs like these. IIJ carried out this use case verification trial in anticipation of further expansion in IoT device demand.

Verification trial outline and results

By enabling eSIM operations to be performed remotely, SGP.32 differs from the earlier specification by which eSIM operations take place using a Local Profile Assistant (LPA), a dedicated application installed on the terminal. The new standard makes it possible to introduce an eSIM even in devices on which it would be difficult to implement a user interface, as well as to perform integrated management of eSIMs installed in multiple devices.

The following evaluations were conducted in the verification trial.
- The ability to download an eSIM appropriate for the installation environment
- Enabling of the eSIM without pairing with a smartphone, and operation in the IoT device on a standalone basis
- Verification of essential functions of the initial profile (bootstrap) for eSIM downloading

These evaluations confirmed that the management operations for eSIM downloading in a mobile communication-only environment are possible, and that the operations are effective for installing mobile communication functions in an IoT device adopting this standard. In addition, the functions required in the initial profile were confirmed, knowledge that will be put to use in initial profile design for future product and service provision.

Features of SGP.32 standard
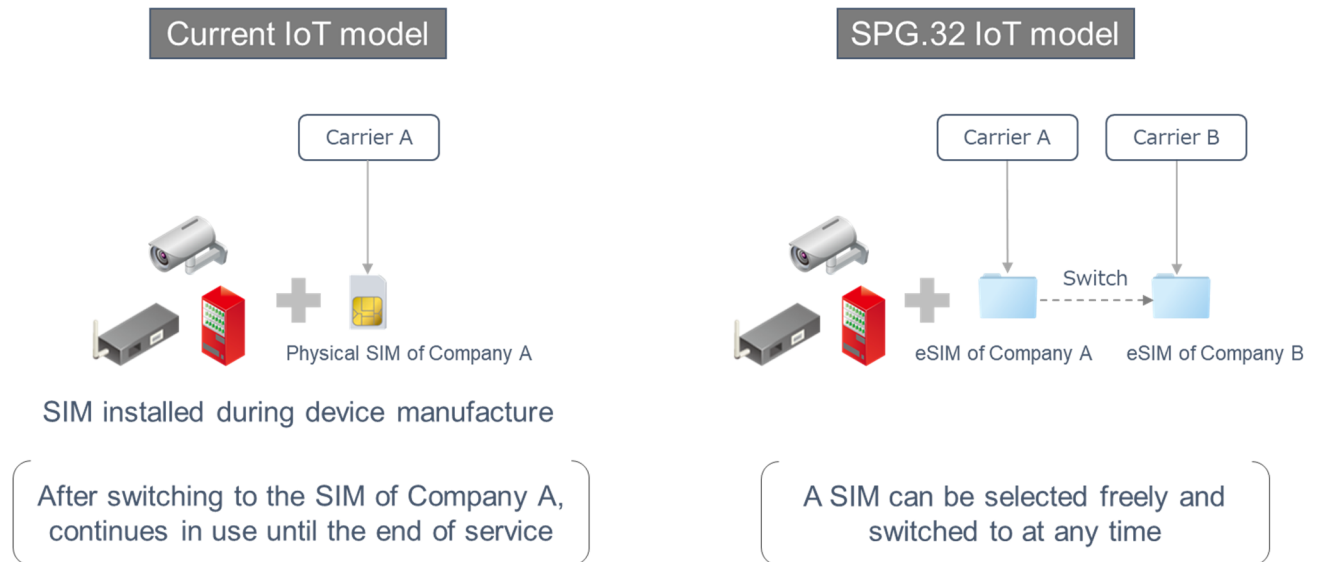
IIJ intends to continue conducting technology trials for application to specific products and services, to meet needs that cannot be met readily with a conventional physical SIM.

About IIJ

Founded in 1992, IIJ is one of Japan's leading Internet-access and comprehensive network solutions providers. IIJ and its group companies provide total network solutions that mainly cater to high-end corporate customers. IIJ's services include high-quality Internet connectivity services, systems integration, cloud computing services, security services, and mobile services. Moreover, IIJ has built one of the largest Internet backbone networks in Japan that is connected to the United States, the United Kingdom and Asia. IIJ was listed on the Prime Market of the Tokyo Stock Exchange in 2022. For more information about IIJ, visit the official website: https://www.iij.ad.jp/en/.

The statements within this release include forward-looking statements about future plans that involve risk and uncertainty. These statements may differ materially from actual future events or results.

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